

Remarks/Arguments:

Claims 1-12 and 20 are cancelled. Claim 13 has been amended. No new material is introduced herein. Claims 13-19 and 21-52 are pending.

Claims 13-19, 21, 27-32, 35, 38-39, 42, 45 and 52 have been rejected under 35 U.S.C. §102(e) as being anticipated by Saeijs et al. (U.S. Pat. No. 6,556,590). It is respectfully submitted, however, that these claims are now patentable over the cited art for the reasons set forth below.

Claim 13, as amended, includes features neither disclosed nor suggested by the cited art, namely:

...a data transmission apparatus...

...time intervals generating means which newly generates predetermined time interval information, when transmitting information, without tagging said information... (Emphasis Added)

These features are disclosed, for example, page 41, line 11 - page 44, line 7 and Figure 6.

Saeijs et al. disclose, in Figure 18, a recording and playback system that inputs a data stream in block 134 and tags each transport packet via tagging block 135. The tagging bits are generated with respect to a local counter 133 and are recorded along with the transport packets via buffer block 137 (Col 22, lines 42-57). Each transmission unit of the data stream is tagged with timing information before being input to the channel. The timing information from the tagged bits is used at the output end of the channel to recreate the proper data timing (col. 21, lines 31-57). Saeijs et al. do not disclose or suggest Applicants' claimed features of "time intervals means which newly generates predetermined time interval information, when transmitting information, without tagging said information" (emphasis added). These features are neither disclosed nor suggested by Saeijs et al. Saeijs et al., instead, require that each transmission unit is tagged before being input to the channel in order to recreate the proper data timing. In addition to buffer block 131 and read control block 138, Saeijs et al. further require the use of tagging block 135, buffer block 137 and local counter 133 shown in the upper portion of Fig. 18. Thus, Saeijs et al.

do not include all of the features of amended claim 13. Accordingly, allowance of claim 13 is respectfully requested.

Claims 14-19 and 21 include all of the features of claim 13 from which they depend. Accordingly, claims 14-19 and 21 are also patentable over the cited art.

With respect to claims 16 and 17. Paragraph 2, page 3 of the Office Action asserts that Saeijs et al. disclose that time interval generating means may or may not include an instruction for correcting time interval information in accordance with a condition of burden upon the sending means. Applicants respectfully disagree. In Fig.18, Saeijs et al. disclose that the signal output from MUX139 is recorded and that the reproduced signal is input in DE-MUX140. The output rate of the signal output from MUX139 and the input rate of the signal input in DE-MUX140 are constant. Accordingly, the burden on the system does not cause any delay of the data reading-out (reproduction) which results in a disruption of time intervals. Thus, there is no need in Saeijs et al. to correct time interval information. It is obvious that Saeijs et al. do not include an instruction for correcting time interval information.

The rejection of claim 27 is respectfully traversed. Claim 27 includes features neither disclosed or suggested by Saeijs et al. Namely:

...an interface which receives a transmission packet which contains a transmission path header in which additional information is described and data blocks...

...transmission path header separator means which separates said transmission packet into said transmission path header and said data blocks...

...additional information extracting means which extracts said additional information from said transmission path header...

...data packet generating means which generates from said data blocks a data packet which is obtained by combining one or more of said data blocks...

...additional information inserting means which adds or inserts said additional information to said data packet and outputs as an output packet the data packet together with said additional information of a type of data format which can be processed by an application simultaneously... (Emphasis Added)

Saeijs et al. is discussed above. Saeijs et al. do not disclose or suggest Applicants' claimed features of "an interface which receives a transmission packet which contains a transmission path header in which additional information is described" or "...additional information extracting means which extracts said additional information from said transmission path header..." or "...additional information inserting means which adds or inserts said additional information to said data packet and outputs as an output packet the data packet together with said additional information" (emphasis added). These features are neither disclosed nor suggested by Saeijs et al. Saeijs et al. disclose that the data treated in the system shown in Figure 18 is a MPEG2-TS packet of 188 bytes and that 187 bytes except a top sync byte are recorded. See Figures 3 and 4. (Also see Col. 9, lines 19-20.) Obviously, for a header of a transmission packet having a MPEG2-TS packet as a payload, the information which is not extracted, is disregarded. Therefore, Saeijs et al. do not include all of the features of claim 27. Accordingly, allowance of claim 27 is respectfully requested.

Claims 28-30 include all of the features of claim 27 from which they depend. Accordingly, claims 28-30 are also patentable over the cited art.

The rejection of claim 31 is respectfully traversed. Although not identical, claim 31 includes features similar to claim 27 which are not disclosed or suggested by the cited art. Accordingly, allowance of claim 31 is respectfully requested.

Claim 32 includes all of the features of claim 31 from which it depends. Claim 35 includes all of the features of claim 27 or 31 from which it depends. Accordingly, claims 32 and 35 are also patentable over the cited art.

The rejection of claim 38 is respectfully traversed. Although not identical, claim 38 includes features similar to claim 27 which are not disclosed or suggested by the cited art. Accordingly, allowance of claim 38 is respectfully requested.

Claim 39 includes all of the features of claim 38 from which it depends. Accordingly, claim 39 is also patentable over the cited art.

The rejection of claim 42 is respectfully traversed. Although not identical, claim 42 includes features similar to claim 27 which are not disclosed or suggested by the cited art. Accordingly, allowance of claim 42 is respectfully requested.

Claim 52 includes all of the features of claim 42 from which it depends. Claim 45 includes all of the features of claim 38 or 42 from which it depends. Accordingly, claims 45 and 52 are also patentable over the cited art.

Claims 22-26, 33-34, 36-37, 40-41, 43-44 and 46-51 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Saeijs et al. It is respectfully submitted, however, that these claims are patentable over the cited art for the reasons set forth below.

The rejection of claim 22 is respectfully traversed. Claim 22 includes features neither disclosed nor suggested by Saeijs et al. namely:

...data conversion means comprising...

packet generating means which divides input stream data and adds header information to each piece to produce packets...

...packet processing start time inserting means which inserts calculated packet processing start time information into the header information of at least a first packet of each frame of said stream data, said data conversion means outputting the packets produced by said data conversion means...

...an interface comprising... transmission start time controlling means which controls transmission start time based on said packet processing start time information

...said interface outputting to a bus the packets processed by said data conversion means at said transmission start time...

...said packet processing start time information of the first packet of each frame of said stream data is expressed by:

$$T1 = X + Z + Y (N - 1)$$

...(where $X \geq 0$, $Z \geq 0$) X denotes the transmission start time for the first packet of the first frame, N denotes a frame number, Y denotes a frame period, Z denotes an initial value, and T1 denotes the processing start time of said packets... (Emphasis Added)

Saeijs et al. is discussed above. Saeijs et al. do not disclose or suggest Applicants' claimed features of "said packet processing start time information of the first packet of each frame of said stream data is expressed by: $T1 = X + Z + Y(N - 1)$..." where "X denotes the transmission start time for the first packet of the first frame, N denotes a frame number, Y denotes a frame period, Z denotes an initial value, and T1 denotes the processing start time of said packets..." (emphasis added). These features are neither disclosed nor suggested by Saeijs et al. Saeijs et al. discloses that the timing information of the inputted data stream is determined for each transport packet via tagging block 135 with a "time of arrival" (TOA) stamp and a "duration of arrival" (DOA) stamp, both with respect to the local counter 133 (Col. 22, lines 48-53). Saeijs et al. do not disclose that the packet processing start time is expressed as a function of transmission start time for the first packet of the first frame, a frame number and a frame period. Instead, Saeijs et al. require a local counter 133 and a reference clock 132. Thus, Saeijs et al. do not include all of the features of claim 22. Accordingly, allowance of claim 22 is respectfully requested.

Claims 23 and 24 include all of the features of claim 22 from which they depend. Claims 25 and 26 include all of the features of claim 13 or 22 from which they depend. Accordingly, claims 23-26 are also patentable over the cited art.

The rejection of claims 33 and 34 is respectfully traversed. Claims 33 and 34 include all of the features of claim 31 from which they depend. Accordingly, claims 33 and 34 are also patentable over the cited art.

Claims 33 and 34 include all of the features of claim 31 from which they depend. Claims 36 and 37 include all of the features of claim 27 or 31 from which they depend. Claims 40 and 41 include all of the features of claim 38 from which they depend. Claims 43 and 44 include all of the features of claim 42 from which they depend. Claims 46 and 47 include all of the features of claim 38 or 42 from which they depend. Claims 48 and 49 include all of the features of claims 27, 31, 38 or 42 from which they depend. Claim 50 includes all of the features of claim 27 from which it depends. Claim 51 includes all of the features of claim 38 from which it depends. Accordingly, claims 33-34, 36-37, 40-41, 43-44 and 46-51 are also patentable over the cited art.

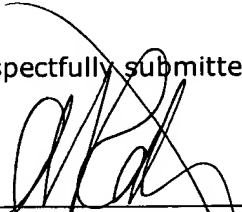
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With respect to claims 33-34, 36-37, 40-41, 43-44 and 46-47 and 50-51. In paragraph 3 of the office action, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to practice Saeijs' invention with any additional information stored within any part of the packet. Applicants respectfully disagree. The additional information disclosed in Saeijs et al. is utilized in order to recreate transport packets from signal blocks. For example, see Col. 10, lines 14-42, where Saeijs et al. discloses that a third signal block, sections TB3.1 - TB3.5 can be used for the storage of additional information. See also, Col. 14, lines 19-50. Applicants' independent claims 27, 31, 38, and 42, however, each disclose that additional information is extracted from the transmission path header by the additional information extracting means. As discussed above, Saeijs et al. disregards the information in the transmission path header. Thus, Saeijs et al. do not include all of the features of Applicants claims 33-34, 36-37, 40-41, 43-44, 46-47 and 50-51 which depend from respective claims 27, 31, 38, and 42.

In view of the amendments and arguments set forth above, the above identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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